69P
Cop. 1

LIBRARY
CURRENT SERIAL RECORD
DEC 11 1943
U.S. DEPARTMENT OF AGRICULTURE

THE PLANT DISEASE REPORTER

Issued by

THE PLANT DISEASE SURVEY, DIVISION OF MYCOLOGY AND DISEASE SURVEY
BUREAU OF PLANT INDUSTRY, SOILS, AND AGRICULTURAL ENGINEERING
AGRICULTURAL RESEARCH ADMINISTRATION
UNITED STATES DEPARTMENT OF AGRICULTURE

Volume XXVII October 22, 1943 Number 21

The Plant Disease Reporter is issued as a service to plant pathologists throughout the United States. It contains reports, summaries, observations, and comments submitted voluntarily by qualified observers. These reports often are in the form of suggestions, queries, and opinions, frequently purely tentative, offered for consideration or discussion rather than as matters of established fact. In accepting and publishing this material the Division of Mycology and Disease Survey serves merely as an informational clearing house. It does not assume responsibility for the subject matter.

IN THIS ISSUE

H. R. Rosen reports incidence of diseases of small grains in Arkansas in 1943, page 560.

Concerning the observations on corn diseases in northwestern South Carolina, page 562, C. H. Arndt writes that the "least anticipated result was the small number of lesions caused by Helminthosporium spp."

Stuart M. Pady reports results of surveys for corn and sorghum diseases in the Kansas-Nebraska area, page 563.

Other reports on cereal diseases, page 565, include notes on corn stalk and ear rots in Iowa, rice diseases in Arkansas, and sorghum diseases in Mississippi and Arkansas.

Edwin E. Honey reports a survey for alfalfa bacterial wilt in Wisconsin, page 566.

Sweetpotato diseases are reported from Maryland by E. A. Walker, Tennessee by R. A. Hyre, Indiana and Illinois by R. C. Baines, and California by Horace L. Barnett, page 567.

Diseases and dry weather caused heavy loss to the commercial pimento pepper crop of Georgia, according to G. M. Stone, page 570.

Reports on diseases of vegetable crops, page 572.

Leon J. Tyler sends a second report on the potato ring rot survey in New York, page 583.

Other reports on potato diseases, page 584.

Reports on diseases of fruit and nut crops, page 586.

J. G. Leach and Anthony Berg report successful control of tomato tip blight, page 590. Other brief notes report squaw-root on tobacco in Tennessee, by R. A. Hyre; soybean diseases in Kansas, by Stuart M. Pady; diseases observed on coffeeweed in Florida, by Arthur S. Rhoads; and guayule diseases in Texas, by G. M. Watkins.

DISEASES OF SMALL GRAINS IN ARKANSAS, SEASON 1942-1943

H. R. Rosen

Oat Diseases - Despite the fact that crown rust was less abundant than usual, fall and winter pasturage and grain yields of winter oats were exceptionally low. This was primarily due to the severe weather conditions in the winter and early spring. Curiously, Helminthosporium avenae, which overwintered abundantly in diseased leaf spots and threatened to be even more abundant than in the previous year (see PDR 26(21): 455-457, 1942), gradually waned as the season advanced and apparently played a minor role in reducing yields. Its place in 1943 was seemingly taken by scab [Gibberella zeae] and anthracnose [Colletotrichum graminicolum], which were much more abundant than usual.

Regarding crown rust [Puccinia coronata], this is the third year in 7 in which crown rust was not found overwintering in the uredial stage. Since 1937, the other 2 years in which it apparently failed to overwinter were in 1940 and '41 (see PDR 26: 119-120, 1942). A survey of all the important oat producing counties in the State, conducted during May, 1943, indicated the presence of less crown rust than has been observed in a number of years, with the exception of a relatively small area in the southwest corner. In this corner, all susceptible varieties were seriously injured. Varieties such as Lee and Fulghum 2500 showed approximately 80 and 60%, respectively, of the leaf area infected when the plants were in the early dough stage (Fruit and Truck Branch Experiment Station, Hope, Arkansas). Even Red Rustproof strains, such as New Nortex, showed about 25% infection of leaf areas.

Spring oats, which often become severely infected with crown rust even in years when there is little on winter oats, showed only small amounts of infection. This was probably due to a combination of reduced inoculum from winter oats plus a dry period extending from the middle of April through the first week in May.

It was difficult to find any pustules of stem rust [Puccinia graminis] on either winter or spring oats.

There was much less smut [Ustilago spp] present than in 1942, infection being represented as a trace in most fields that were examined.

Wheat Diseases - As usual, leaf rust [Puccinia rubigo-vera var. tritici] of wheat was very abundant and destructive even though the amount of infection did not reach a critical figure until the milk stage was reached. At that stage, fully 90% of the leaf areas became infected and such varieties as Southern Bluestem, Fultz, and Fulcaster, which up to that time gave promise of yielding at the rate of about 35 bushels per acre at the Agricultural Experiment Station Farm, Fayetteville, finally averaged about 22 bushels per acre. While such yields are considered very good for this area, a fair estimate of the loss occasioned by leaf rust was afforded by a comparison between leaf rust-resistant and susceptible varieties interplanted in the same plot. The best yield obtained from the susceptible varieties was 25 bushels per acre while the best of the resistant ones yielded at the rate of 40 bushels per acre. While part of this difference may have been due to other factors than leaf rust, there could be little doubt that most of it was correlated with the presence or absence of this

disease.

Septoria tritici, which was very destructive in 1942, was considerably reduced in incidence in 1943 and in its place S. nodorum appeared abundantly, mostly as a glume blotch. However, the latter, developing largely after the milk stage had passed, apparently caused little reduction in yields. There was considerable difference between varieties in amount of glume blotch. The following appeared highly susceptible in the uniform winter wheat rust nursery: Mediterranean-Hope Sel. Texas 41-16-3-3, Marquillo x Tenmarq, Marquillo x Oro Kansas Sel. 383483, Hope x Cheyenne Nebraska Sel. 363339, and H-44-Minturki x Minturki Minnesota 11-29-68.

While there was more scab present than usual, it was not of importance economically.

There was a mere trace of stem rust and of loose [Ustilago tritici] and covered [Tilletia spp.] smuts.

Barley Diseases - Leaf rust [Puccinia anomala], while perhaps not quite so destructive as leaf rust of wheat in Arkansas, was abundant and probably caused more damage than is usually attributed to it in the literature. When no leaf can be found on plants in the early dough stage with less than 60% of the leaf area infected, 70 to 80% being average, there is bound to be appreciable loss in yield. Unfortunately, there were no resistant varieties present in the experimental plots and none seen in the State-wide survey to serve as a basis for estimating losses in yield from leaf rust.

Unlike the 1942 season when powdery mildew [Erysiphe graminis] was very abundant, there was very little of it in 1943.

Net blotch (Helminthosporium sativum) was common and apparently fairly destructive, indicating for one thing a lack of seed treatment, but the absence of resistant varieties plus the presence of much leaf rust made it impossible to evaluate the loss from net blotch.

Scab was present in amounts comparable to that on wheat.

Very little smut of any kind was observed and there was a mere trace of stem rust.

Rye Diseases - The 2 most important diseases of rye in 1943 were anthracnose and leaf rust[Puccinia rubigo-vera var. secalis]. The chief damage caused by anthracnose was not in the form of head blight but as a rot of root and stem tissues that killed the tillers and prevented the heads from filling out (identification made by Dr. A. G. Johnson). In one field of Balbo rye at the Livestock and Forestry Branch Experiment Station at Batesville, approximately 2% of the heads were rendered sterile by this disease.

Leaf rust was common on both Balbo and Abruzzi rye, the 2 varieties commonly grown in this State, but appeared quite late and apparently caused little damage.

No stem rust or smut was observed.

AGRICULTURAL EXPERIMENT STATION, UNIVERSITY OF ARKANSAS

FUNGI AFFECTING CORN STALKS, LEAVES, AND SHEATHS IN NORTHWESTERN SOUTH CARLONIA IN 1943

C. H. Arndt

Detailed observations during September 1943 were made in 3 corn fields in northwestern South Carolina to ascertain the pathogens infecting stalks, leaves, and leaf sheaths. In 2 fields, the injury from leaf spots, based on leaf area affected, ranged from slight to severe firing. For the fields as a whole, the injury was probably about 20%. In these fields, the predominating fungus in the lesions was a Cercospora sp. In the third field, in bottom land, the injury was about the same as in the other fields, but a Colletotrichum sp. was obtained from 60% of the lesions. The other lesions were largely infected by a Cercospora sp. In this bottom-land field the Cercospora was obtained from about one-half the lesions on the leaf sheaths and midribs; from the other lesions of the latter tissues, largely a Colletotrichum sp., F. moniliforme, and Fusarium spp. were isolated. This Colletotrichum was not obtained from similar lesions in the other fields, in which the lesions were associated with the other fungi mentioned. Cephalosporium acremonium, Helminthosporium maydis (sp.?), Spicaria sp., Alternaria sp., and several other unidentified fungi were found in a small percentage of other lesions. Only 3 plants infected by Physoderma zeae-maydis were seen.

Portions of the lower nodes of about 700 plants were plated on water agar after surface sterilization. A study of the data shows no influence of seed treatment on the infecting fungi. No obvious differences were noted in infecting fungi between stunted and normal plants or plants with and without discolored nodes. The only evident correlation was a much higher infection of corn-stalk-borer infested plants by F. moniliforme, about 50% of such plants being thus infected. The percentage of stalks infested by the borer ranged from 4% for the bottom-land field to 56% and 91% for the 2 upland fields. The ranges in the percentages of plants infected by the several fungi were: F. moniliforme, 5 to 50; Fusarium spp., 1 to 3; C. acremoniun, 5 to 11; Nigrospora sphaerica, 1 to 10; unidentified (in part Diplodia zeae) 4 to 16; Colletotrichum sp., 0 to 3; Chaetomium sp., 2 to 8; bacteria, 14 to 24. Nodal infection by N. sphaerica was limited to plants from the bottom-land field. Only one culture was secured that showed the characteristics of Gibberella zeae. Further study of some cultures now identified as Fusarium spp. may indicate that they are, in part, Gibberella fujikuroi var. subglutinans.

These plantings were made in early May. Rains were generally frequent up to the third week in July, after which there were very few rainy or cloudy days.

CLEMSON AGRICULTURAL COLLEGE

DISEASES OF CORN AND SORGHUM IN THE KANSAS-NEBRASKA AREA

Stuart M. Pady

Corn in Nebraska - Corn diseases were surveyed in a 2-week trip (from October 5 to 16) through 38 counties in the southwestern, southcentral, and northeastern parts of Nebraska. In 58 fields figures were obtained on the percentage of lodging, charcoal rot, Diplodia stalk rot, and smut. Harvesting was under way throughout the area.

Charcoal rot (Sclerotium bataticola) was the outstanding corn disease. It was found in 50 out of 58 fields, ranging in amount from 1 to 78%, averaging 29%. It was present in every county visited except Dodge. The least charcoal rot was found in the counties north of the Platte River. Severe lodging was taking place in most fields.

The greatest amount of charcoal rot was found in early-maturing varieties on dry land. Irrigated fields showed little or none; most of the plants were immature at the time of examination. In one irrigated field charcoal rot was abundant in the parts of the field that had not received water and where the plants were small and mature; in the other parts of the field, the plants were large and immature, and the rot was only occasionally found.

Diplodia stalk rot (Diplodia zeae) was found in 30 fields in 19 counties, ranging in amount from 1 to 40%, averaging 8.5%. Some lodging was found but less than with charcoal rot.

In this survey lodging was present in every field examined, varying in amount from 2 to 79%. Some of this was due to the 2 rots reported, and some to other causes. In 20 fields the amount of lodging was more than the amount of charcoal rot; in 31 fields, the amount was less. In 28 fields the amount of lodging was more than the amount of diplodia rot; in 3 fields the amount was less; in 1 field the amounts were the same. The combined action of the 2 diseases is not indicated by the amount of lodging. In 14 fields the amount of lodging was greater than the combined diseases; in 12 fields the amount was less. One irrigated field with 12% lodging had no charcoal or diplodia rot and the stalks were still green.

Smut (Ustilago maydis) was present in 56 out of 58 fields, ranging from 2 to 21%, averaging 7.7%.

Root rots were found in 13 plants in 7 fields. In 2 irrigated late fields a root rot was found in 12% and 20% of the plants, some of which were probably early stages of charcoal rot.

Disease Survey in Hybrid Corn Production Test Plots in Anderson and Jackson Counties, Kansas - The hybrid corn production test plots in Anderson and Jackson Counties were examined for stalk and ear rot diseases October 19 to 21; and 24 varieties in the respective plots were studied. It was believed that these plantings would give a good comparison of the behavior and disease reaction of the hybrid corn varieties that are being tested by the Kansas Agricultural Experiment Station. Each variety had approximately 50 plants and the percentages given below are based on this figure.

In the Anderson County plot Diplodia stalk rot occurred abundantly, being found in 133 plants in 27 out of 28 varieties. While some varietal

differences were noted, as for example in one variety that had 19 infected plants, most of the varieties had between 4 and 8 infected plants. The amount of infection for the test was estimated to be 12%. Charcoal rot was found in 15 plants in 10 varieties. The estimated infection was about 1%. Smut was present in 30 plants in 16 varieties for an average of approximately 2%. In view of the amount of Diplodia stalk rot present, the absence of lodging was somewhat surprising since only 13 lodged plants were noted. The estimated amount of lodging for the entire plot was approximately 1%. Thirteen varieties were examined for ear rots. Fusarium moniliforme occurred in 15 ears in 8 varieties, 6 times following insect injury. Nigrospora oryzae and Diplodia zeae were each found in a single case.

In the Jackson County test plot, 24 varieties were examined by way of comparison with the Anderson County plot. Charcoal rot was abundant in this test, occurring in 141 plants in 22 varieties for an average of 12%. Two varieties were free from this disease and may be somewhat resistant. Diplodia stalk rot was slightly less than in the other test, being found in every variety on 109 plants, averaging 9%. Lodging in this test was estimated to be 4%. The increased amount is undoubtedly due to the increase in the amount of stalk rot present. Smut was found in 33 plants in 14 varieties and the amount of infection was estimated to be 3%. Ear rots were not abundant in this test. Fusarium moniliforme was found in 23 ears but in 16 of these it had followed injury by ear worms. Nigrospora oryzae was found in one ear.

Sorghum Diseases in Nebraska - Twenty-five fields in 15 counties were examined (October 5 to 16, see above). Most of the forage sorghums and kafir grain sorghums had been cut and the milo sorghums were beginning to mature.

Weak neck (genetic) was present in 14 fields, mostly in the early stages with brown rachis, off-color heads, but no breaking-over. In 5 fields breaking-over of the peduncle had taken place.

Kernel smut (Sphacelotheca sorghi) was present in 7 fields; in 6 fields the amount varied from 1 to 13% but in 1 field 48% of the plants were infected.

Charcoal rot was present in a few plants in 5 fields. In a low area in 1 field 34% of the plants were infected, most of them being lodged. Extimated loss for the whole field was 10%.

Bacterial streak (Xanthomonas holcicola) was noted in 2 late-planted fields.

In one field of Early Kalo over 50% of the plants in a low spot were lodged. The cause has not been determined.

Sorghum in Kansas - One field of Wheatland sorghum was examined in Franklin County. Weak neck was found in most heads and charcoal rot was present in small amount causing lodging in some plants.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

OTHER REPORTS ON DISEASES OF CEREALS

CORN STALK AND EAR ROTS IN IOWA: During the week ending October 16, a survey of corn stalk and ear rots was made in Blackhawk, Buchanan, Delaware, Dubuque, Maquoketa, and Jones Counties. The fields examined were mature and a general prevalence of Diplodia zeae-infected plants was noted. The percentage of stalk infection ranged from 24 to 58%, averaging 37. Evidence of Diplodia infected shanks ranged from none to 8%, averaging 2.6%. An average of 0.8% of the ears showed typical Diplodia ear rot.

Smut (Ustilago maydis) was also general, ranging from a trace to as much as 22% in one of the fields, averaging 6% for the area. Smut infection of the nodes averaged 3.2%, ear infection 2%, and tassel infection 0.8%.

The prevalence of the other ear rots was as follows: Fusarium moniliforme, none to 4%, average 2%; Nigrospora oryzae (Basisporium gallarum), none to 6%, average 1.8%; Gibberella zeae, none to 2%, average 0.2%. Practically all secondary ears showed Nigrospora infection. -- T. W. Bretz, Emergency Plant Disease Prevention Project

DISEASES OF RICE IN ARKANSAS: Helminthosporium oryzae occurred in most plantings observed, but only a few spots were apparent and damage in each case was negligible.

Cercospora leaf spot (C. oryzae) was the most widespread of the rice diseases observed. In one almost 400-acre planting of the Blue Rose variety near DesArc 40% of the foliage surface was infected. Similar infections were observed on the Zenith variety in plantings at Brinkley and Lonoke. In another case, in the Newport area, approximately 60% of the foliage of Zenith was affected.

Piricularia oryzae neck rot and leaf infection were causing a loss of 2% in a planting of the Blue Rose variety at DesArc, and a similar loss was observed on the Lady Wright variety at Newport.

A trace of leaf smut (Entyloma oryzae) was observed in a commercial planting of Zenith at Brinkley, and a 10% infection on Kamrose at Newport.

Straighthead (non-parasitic) was one of the most serious rice maladies in Arkansas in 1943. In 2 plantings nearly 50% of the expected yield was lost due to this condition. In a planting of Blue Rose near DesArc the loss was from 30 to 50%. In Jackson County the disease caused losses amounting to 10 to 50%, depending upon the practice followed by the grower. In a field of Zenith near Newport 50% loss was estimated.

Straighthead has caused a great deal of concern in Jackson County this year. Growers have attributed the increase in amount of the disease to the Anopheles mosquito control program followed by the health department. Dusting experiments for the control of the larvae, using Paris green as the source of poison, were carried out in the Newport area. Straighthead seems to be more prevalent this year than in past years and some growers have connected the increase of the disease with the larvacides dusted onto their rice fields. However, straighthead was also prevalent in fields where no larvacide was applied. -- Howard W. Larsh, Emergency Plant Disease Prevention Project, reports September 27 to 28, October 10 to 16.

SORGHUM DISEASES IN MISSISSIPPI: During the period from October 11 to 16, sorghum fields were visited in Lowdens, Monroe, Lee, Union, Marshall, Lafayette, Yolobusha, and Claiborne Counties. Ascochyta sorghina was the most prevalent leaf-spotting fungus, being found in all except 2 fields; in most of them infection was moderate to heavy. Colletotrichum graminicolum was found on the leaves in all fields. Cercospora (sorghi) leaf spot was general and bacterial leaf spot (Pseudomonas holci) was found in 1 field. -- L. H. Person, Emergency Plant Disease Prevention Project.

SORGHUM DISEASES IN ARKANSAS: Milo or Pythium root rot (P. arrhenomanes) was observed in plantings near Stuttgart and Judsonia. In no planting was the loss more than 1%.

Bacterial spot (Pseudomonas holci) and stripe (Pseudomonas andropogoni) were observed in all plantings surveyed, but damage was negligible.

Covered smut (Sphacelotheca sorghi) was observed in 2 plantings: a loss of less than 1% in one near Stuttgart, and a few heads infected in a field near Brinkley.

Lodging caused by Sclerotium bataticola was observed at Stuttgart and Judsonia. However, most of the sorghum had been planted since the flood in these regions and had not matured. -- Howard W. Larsh, Emergency Plant Disease Prevention Project, reports September 27 to 28, October 10 to 26.

ALFALFA DISEASES AND INJURIES IN WISCONSIN

Edwin E. Honey

Inspection of alfalfa fields in company with Dr. Fred R. Jones was made in Columbus, Dodge, Washington, Fond du Lac, Winnebago, Outagamie, Waupaca, Shawano, Oconto, Brown, Door, Kewaunee and Manitowoc Counties during the week ending October 16. The chief purpose of the inspection was to determine the prevalence and severity of alfalfa wilt, especially with respect to the spread from south to north since wilt was practically unknown in the Green Bay area when it was severe in the southern part of the State 10 years ago.

The majority of fields examined were 2 to 3 years old. A few 4 to 5 year old and one 6-year old field were inspected.

Bacterial wilt (Corynebacterium insidiosum) was present in each county examined. In new seedlings (first year) no wilt was seen. In 2-year old alfalfa fields from none to 5 or 10% wilt was observed, with the exception of one field having 60%. Three-year-old fields ranged from a trace to 65% wilt, the majority being between 20 to 50% with the exception of one 6-year old field in Door County which had only a trace. Wilt infection was uniformly scattered over the fields, or in other cases would be more severe in spots. Alfalfa on exposed gravelly knolls was more severely affected. In general the older the field the more severe the wilt infection. Older fields commonly would have a very scattered stand possibly because of the going-out of plants from wilt at some earlier date.

In general, bacterial wilt, while present, was considerably less on the Door County peninsula possibly because of the cooler climate which caused

wilt to develop more slowly and the protection from winter injury commonly given by abundant snow.

One striking observation on this inspection was the scarcity of old fields. It is probable that winter injury and wilt are the two most important reasons for the going-out of many alfalfa fields after 2 or 3 years.

Cold and winter injury was conspicuous in most fields examined. Winter injury appeared to be the chief factor providing avenues for wilt infection. The effect of snow fences in holding snow and thus giving greater protection to alfalfa was striking in several fields and the bad effect of too much snow and ice resulting from the piling up in the snow clearance of roads was also seen.

A significant observation on this trip was the prevalence of close cutting and severe grazing. This probably partly resulted from the late summer dry season. On the Door County peninsula a few fields were being cut at this time for seed. Seed production appeared to be a failure or rather poor at best.

Of the leaf spot diseases Pseudopeziza (medicaginis) was the most generally distributed, being present in all counties, but in certain fields in Winnebago and Shawano Counties the yellow leaf blotch (Pyrenopeziza) was much more severe. Downy mildew (Peronospora trifoliorum) was present in small amounts in a few fields in Dodge, Winnebago, Outagamie and Brown Counties. A trace of rust (Uromyces striatus) was also seen in a very few fields.

EMERGENCY PLANT DISEASE PREVENTION PROJECT .

SURVEYS FOR DISEASES OF SWEETPOTATO

MARYLAND: In Anne Arundel County, September 13 to 18, drought had seriously reduced the growth of vines on elevated ground. A recent rain had caused severe cracking of the enlarged roots in low lands. The numerous small sweetpotatoes present in the hills will not enlarge sufficiently to be marketable, and the crop reduction from this cause will amount to 30% or more. Stem rot (Fusarium bulbigenum var. batatas) was present in most fields; loss will average 2% of the plants killed. In one field near Jessups 10% of the vines were diseased or killed. -- E. A. Walker, Emergency Plant Disease Prevention Project.

SWEET POTATO FIELD INSPECTION RESULTS IN TENNESSEE IN 1943: In the accompanying table (page 568) are the results of field inspections of sweetpotatoes entered for certification. Many fields were not entered for certification because of the prevalence of diseased plants, especially in western Tennessee. The presence of excessive amounts of Fusarium stem rot (the tolerance is 0.1%) was the cause, perhaps, of all the condemned acreage. I am indebted to Professor G. M. Bentley, State Entomologist and Plant Pathologist, for these data. -- R. A. Hyre, Emergency Plant Disease Prevention Project.

Sweet Potato Field Inspection Results in Tennessee in 1943

County	Number of fields	Field inspection	Nancy Hall: Certified (acres)	Nancy Hall: Condemned (acres)	Porto Rico: Certified (acres)	Porto Rico: Condemned (acres)	Ratio Certified: Condemned
Eastern Tenn.							
Blount	1	2nd.	4	0	0	0	
Knox	4	2nd.	3	1.5	3.85	0	
Loudon	35	2nd.	44.8	12.6	2.34		
Monroe	1	2nd.	4.75	.75	0		
Summary	40		56.45	14.85	6.19	0	4.2:1
Central Tenn.							
Cheatham	1	1st.	0	1	0	1	
DeKalb	3	1st.	2.5	0	2	0	
Franklin	3	1st.	0.5	0	4	0	
Giles	1	1st.	0	0	1.5	0	
Humphreys	1	1st.	0.5	0.	0.5	0	
Lawrence	37	2nd.	57.0	30.0	15.5	0	
Montgomery	4	2nd.	15.5	0	10.0	0	
Perry	1	2nd.	0.5	0	3.0	0	
Robertson	5	2nd.	20.0	0	0	0	
Sumner	3	2nd.	1.25	0	.75	.25	
Wilson	4	1st.	3.0	5.0	.5	1.0	
Summary	63		100.75	36.0	37.75	2.25	3.6:1
West Tenn.							
Carrol	7	1st.	4.75	.75	18.30	15.0	
Gibson	12	1st.	0	0	7.25	30.0	
Henry	5	1st.	0	0	5.25	4.5	
Weakley	5	1st.	0	0	1.0	4.5	
Summary	29		4.75	0.75	31.80	54.0	0.7:1
Grand Summary	132		161.95	51.60	75.74	56.25	2.2:1

ILLINOIS AND INDIANA: From October 5 to 8 a survey was made of the diseases occurring on sweetpotatoes in southwestern Indiana and southeastern Illinois. Only a few were being dug, and it appeared that harvest would start in many fields the following week. The dry weather during most of the growing season retarded the growth and development of the storage roots. The yeilds likely will be about two-thirds of a good crop.

Plants affected with wilt (Fusarium bulbigenum var. batatas) were found in all of the fields examined, and ranged from a trace to 30% of the plants infected severely or killed. Plants infected slightly could be detected with some degree of certainty only by examining the interior of the stems and were not recorded.

The survey was continued during the week ending October 16 in Knox and Gibson Counties in southwestern Indiana and in Union County in southern Illinois. The sweetpotatoes were examined in the field at the time of harvest and also in the storage houses.

Yellow Jersey and Porto Rico are the principal varieties grown in southern Indiana, and the commercial acreage is limited to the sandy and sandy loam soils in the above 2 counties. In southern Illinois, the Nancy Hall is the most popular variety. However, some acreage is planted with the Porto Rico and Yellow Jersey varieties. Sweetpotatoes in southern Illinois are grown chiefly on loam or a fine sandy loam soil.

Stem rot or wilt is the most serious and widespread disease on sweetpotatoes in southern Indiana in 1943. Wilt occurred in 16 of the 18 fields examined, and from a trace to 33% of the plants were infected severely. The severely infected plants were killed or badly stunted. Frequently plants killed late in the season had produced a few marketable roots, but in a number of cases, the sweetpotatoes produced by diseased plants were rotted at the "stem" end. It appeared that the yield from plants infected moderately was reduced about 25% and that the average reduction in yield by wilt was about 10% in Indiana.

Soil rot or pox (Actinomyces sp.) occurred in 20% of the fields in Indiana. In one field of the Yellow Jersey variety 21% of the fleshy roots were infected slightly and moderately. In the other 3 fields only a trace of the disease was found. A trace of black rot (Ceratostomella fimbriata) was found in 2 fields and ring rot or mottle necrosis (Pythium ultimum) in 2 fields.

In Union County, Illinois, 10 fields of sweetpotatoes were examined. Fusarium wilt occurred in one-third of the fields examined. In one field wilt resulted in about 15% loss in yield, and in the other fields a trace of the disease was found.

Approximately 10% of the tubers in one field were infected slightly and moderately with Actinomyces sp. (pox). In 2 fields a trace of this disease occurred. A trace of black rot was found in 2 fields, a trace of scurf (Monilochaetes infuscans) in one field, and a trace of mosaic in one field.

Sweetpotatoes recently placed in storage appeared to be in good condition and very free from rots. The growers mentioned that fewer sweetpotatoes this year were infected with pox, black rot, and ring rot than usual. This may in part be due to the practice of treating the seed and plants with fungicides as recommended by the plant pathologists of the experiment stations and to the drought during July, August, and September. -- R. C. Baines, Emergency Plant Disease Prevention Project.

CALIFORNIA: During the week ending October 9, 3 days were spent in Merced and Stanislaus Counties, the primary purpose being the survey of sweetpotato diseases. In these counties, according to estimates furnished by the County Farm Advisors' Offices, there are approximately 3,000 acres in sweetpotatoes this year. Digging had only recently begun.

The sweetpotato-growing area in these 2 counties may, for convenience in this report, be divided into 3 general areas. First, the older area with the heavier concentration of acreage is near Atwater. Most of this land has been in sweetpotatoes before. Here, stem rot (Fusarium) was very serious. Jerseys showed approximately 35% loss from dead or non-productive plants, and actual loss will probably be greater due to decreased yield in other infected plants. Porto Rico and Hawaii showed less infection. A small amount of black rot was seen here but did not seem to be very serious.

The second area consists of a fairly large acreage about 8 miles northeast of Atwater. The sweetpotatoes here were on new land. Comparatively few dead plants were seen in this area. Most of these were killed by stem rot. In one field where digging had started, an estimated 2 to 3% of Porto Rico was discarded because of black rot. As a whole, the sweetpotato crop in this area was very good this year.

The third area includes scattered fields of sweetpotatoes in the southern part of Stanislaus County. Here, sweetpotatoes are one of the newer crops but the land is not new. Only a small amount of stem rot and black rot were seen in this area and neither seemed to be very serious this season.

Scurf was found in most of the fields although not very abundant in any of them. Most of the growers in these counties select their own "seed". Some of them work with the cooperation of the county farm advisor and others do not. -- Horace L. Barnett, Emergency Plant Disease Prevention Project.

DISEASES IN THE COMMERCIAL PIMENTO PEPPER AREA OF GEORGIA

G. M. Stone

The Pimento pepper is an important crop in the Griffin area of Georgia. There are about 20,000 acres of peppers grown in the State and the greater part of the acreage is grown in Spalding, Butts, Pike, and Lamar Counties, with Griffin (Spalding County) about in the center of the area. Practically the entire crop is produced on contract for canneries. The Pimento industry in this section was begun about 15 to 20 years ago. Yields then, according to local history, were 3 1/2 to 4 tons per acre with 5 tons not uncommon. Present yields, even though improved varieties and improved practices are in use, are much less. This year the season has been poor in that there was little rain during the fruiting season. However, diseases also took a terrific toll of the crop.

A products company at Griffin has 4,000 acres grown on contract this year. The writer accompanied by B.B.Higgins, Pathologist, Georgia Experiment Station, Griffin, Georgia, and the field man for the Company, inspected 15 fields comprising 160 acres which, according to the field man, were representative of the area. The disease findings of these fields are

summarized in table form below.

Table 1. Summary of Disease Findings on Pimento Pepper in the Griffin, Georgia Area - 1943.

Field	Number acres	Bacterial leafspot	Cercospora leafspot	Southern blight	Rootknot nematode	Mosaic
1	4[a]	2[a]	1[a]	4[a]	0[a]	2[a]
2	6	2	1	2	0	2
3	8	1	1	1	0	2
4	3	4	4	1	1	2
5	40	1	4	1	4	2
6	10	2	4	1	4	2
7	25	2	4	1	4	2
8	1	4	4	1	0	2
9	5	4	2	2	4	2
10	8	4	2	2	4	2
11	35	3	2	2	0	2
12	5	2	2	4	0	2
13	5	2	2	1	4	2
14	3	4	2	1	4	2
15	2	2	2	2	4	2

[a] DISEASE CLASSES

0 - No disease.
1 - Trace -- scattered infections, no apparent damage.
2 - General but light, little damage.
3 - General medium severe, moderate damage.
4 - General, severe damage

Note: Anthracnose and ripe rot were not found in the field. However, a few pods of each were found in the plant storage shed.

A word about the seed treatment and cultural practices in use in the area is necessary to a clear understanding of the disease problems by which we are confronted.

The seed used by growers is saved by the canneries, usually from selected fields. The seed as they come from the pods, are washed and while still wet treated with a normal Semesan solution, then dried and stored in closed containers.

The plants are produced on the farm in hot-beds or steam-heated beds. The beds are usually used for several years. An effort is made to "clean up" the beds when they are used more than one year. The soil is removed and new soil (woods dirt) added. Practically no soil sterilizing is done.

Peppers are usually grown on "rested" fields. Fields grown up in sage grass are preferred by the growers. As a rule, farmers do not grow peppers in the same field more than one year in succession.

The crop yields this year were considered about half that anticipated. It was estimated that 25 to 30% of the loss was caused by disease, the rest being attributed to the dry weather. According to Dr. Higgins, the pepper diseases listed in order of importance for the area are: ripe rot (Vermicularia capsici), bacterial leafspot (Xanthomonas vesicatoria), Cercospora leafspot (C. capsici), southern blight (Sclerotium rolfsii), nematode (Heterodera marioni), anthracnose (Colletotrichum nigrum), and mosaic (virus). There was no damage from ripe rot this year, no doubt because of the dry season. Southern blight did not take quite the usual toll of plants probably for the same reason. However, bacterial and Cercospora leaf spots caused serious damage, especially where nematodes were present. Fields 5, 6, 9, 10, and 14 were practically a total loss. It seems that when pepper is defoliated by Cercospora or bacterial leaf spot early in the season, in the presence of sufficient moisture, the plant will put out new growth and produce a fair crop, but there was little "comeback" this season because of the dry weather. The presence of nematodes caused a further setback. It is important to note that Cercospora and bacterial leaf spots were prevalent even though the seed were efficiently treated. Apparently seed treatment alone is not sufficient to control these diseases.

It seems that nematodes are much more widespread in the area than had been realized.

Southern blight (Sclerotium rolfsii) was prevalent even though most fields had not been planted to susceptible crops for several years.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

REPORTS ON DISEASES OF VEGETABLE CROPS

ASPARAGUS RUST: O. C. Boyd reports that in Massachusetts, "The first observation of the year for rust (Puccinia asparagi) was on September 17 in a field of Paradise asparagus, where it had appeared around mid-July in 1942 and had caused severe damage during August and September of that year. Rust could not be found this fall in any of the several fields examined in Bristol County on September 15, yet on October 13, County Agent Charles Harris, Jr., of that county mailed in a plant with severe infection. Hence, following the unusually heavy outbreak over all the State last year, asparagus rust apparently did not make its appearance until late in the season this year."

In New Jersey, fields observed in Salem County by E. A. Walker during the week ending October 2 were mostly free from rust, but in one field near Woodstown about 10% of the plants were affected. In Monmouth County rust infection averaged 80% or more in 2 small fields (1 acre each).

BEAN DISEASES IN THE MOUNTAIN SECTION OF NORTH GEORGIA: Green beans are an important cash crop in the mountain section of northern Georgia. Usually about half of the total acreage is grown as an early crop, and the remainder as a late crop. This report concerns the late crop.

As far as could be ascertained the early crop was medium good. The late crop, however, was a near failure. Several factors were responsible for the poor crop. First, the weather was very unfavorable. Excess rain-

fall occurred just prior to and during planting, and the wet weather was followed by extremely dry weather that lasted through the harvest season. Second, the Mexican bean beetle was unusually active and control measures were inadequate. Third, several diseases played an important part.

Most seed stocks either were furnished by the canning companies or obtained for the growers by the county agents with the result that most of the seed-borne diseases were eliminated.

The diseases observed during the period from October 4 to 8 are as follows (note: insect damage to leaves was such that in many cases it was impossible to observe leaf diseases accurately):

Powdery mildew (Erysiphe polygoni) was present in every field examined. In some fields it was unusually destructive, affecting all above-ground portions of the plants. In other fields the attack was light.

Rust (Uromyces phaseoli var. typica) was found in most fields. Usually both the uredinial and telial spore stages were present. Infection was heavy, occurring on both leaves and pods, on several crops examined. However, infections were light in most fields.

Anthracnose (Colletotrichum lindemuthianum) was found in a rather severe form in 2 fields. The source of the seed is not known.

Bacterial blight [species not designated] was observed on scattered plants in one field.

Mosaic (virus) was almost as widespread as mildew and rust. In one field 35% of the plants showed mosaic symptoms.

Rhizoctonia [solani] was found on both stems and pods in one field. However, the number of affected plants was small.

It was rather surprising to find rootknot (Heterodera marioni) in many of the creek bottom fields in the mountain section. Two fields were observed in which nearly 100% of the plants were infected; and scattered plants were found in other fields. -- G. M. Stone, Emergency Plant Disease Prevention Project.

BEAN DISEASES IN THE CRYSTAL SPRINGS AREA OF MISSISSIPPI: Most bean fields in the commercial area in Copiah County, September 27 to October 2, were in good condition, although many were unusually late owing to delay in planting caused by dry weather. Bacterial halo blight (Pseudomonas medicaginis var. phaseolicola) was found in 2 fields; there was only a trace in one field and less than 1% of the plants were affected in the other. Mosaic was prevalent in all fields; in one from 10 to 15% of the plants were infected. In one field in which Rhizoctonia microsclerotia had been observed on the primary leaves earlier in the season, the upper leaves of from 2 to 3% of the plants were infected with the fungus at this time. From 2 to 3% of the plants had been killed in one field by Rhizoctonia (determined from the severe lesions and basal stem girdling).

Mosaic was found on both plants and pods in bean fields visited during the period from October 11 to 16 in the vicinity of Crystal Springs in Copiah County. Some plants were attacked so severely that both plants and pods were stunted. Mosaic symptoms on the pods were manifest as watery patches sometimes covering as much as half of the pod. The loss in one field was estimated at 5%. The same condition was noted on plants from experimental plots grown at Starkville. -- L. H. Person, Emergency Plant Disease Prevention Project.

BOTRYTIS AND RUST ON BEANS IN WASHINGTON AND OREGON: Traces of Botrytis rot were evident in a field in Clatsop County, Oregon, visited October 2. Rust was not found. Either a very effective control had been used or the inoculum was not sufficient in this area where the crop is grown on a limited scale.

Botrytis sp. was causing sunken necrotic spots on beans in a field in Snohomish County, Washington, examined September 16. After a few hours in the lug boxes fungus growth becomes evident from the lesions. The greatest loss is in the labor to separate infected beans at the packing plant. Approximately 7% of the beans showed infection. The planting was free from rust. -- L. W. Boyle, Emergency Plant Disease Prevention Project.

CARROT DISEASES IN CONNECTICUT: Leaf blight (Cercospora carotae or Alternaria carotae or both) was general in Cheshire but was causing only slight damage. In Southington a very severe attack was found in a large field in which at least 1/3 of the leaf surface was killed. Yellows (aster yellows virus) is generally prevalent in the State but damage, at most, is very slight. Root branching (non-parasitic) caused a complete loss of a 5-acre field in Hamden. Dry weather and a hardpan soil was causing the root to develop from 2 to 4 branches. -- R. C. Cassell, Emergency Plant Disease Prevention Project. September 26 to October 2.

BACTERIAL BLIGHT OF CARROTS IN IDAHO: On September 25 I visited a large planting, about 20 acres, of carrots that appeared to be rather severely affected with bacterial blight (Xanthomonas carotae) of the leaves, in Bear Lake County. -- Earle C. Blodgett, Emergency Plant Disease Prevention Project.

BLACK HEART OF CELERY IN MASSACHUSETTS: A home garden in Northampton, Hampshire County, showed general but slight damage from black heart (physiogenic). Commercial growers report at least some loss from this disease over all the State. -- O. C. Boyd, Massachusetts State College, summary of surveys made by Robert C. Cassell and O. C. Boyd accompanied by the county agricultural agent of Hampshire County (October 7, 8).

CELERY BLIGHTS IN NEW ENGLAND: Early blight (Cercospora apii) was generally present but causing very slight damage in one Newport, Rhode Island, planting. Infection was confined to the older leaves for the most part.

In Connecticut early blight was generally prevalent and causing slight to moderate damage in one field in Cheshire. Late blight (Septoria apii) was general in one Cheshire field where it was causing slight damage, and occurred locally with moderate damage in a second Cheshire field. -- R. C. Cassell, Emergency Plant Disease Prevention Project, October 10 to 16, and September 26 to October 2, respectively.

CELERY DISEASES IN CENTRAL CALIFORNIA: One interesting combination of tomatoes, peppers, and celery was seen growing in close proximity on one farm in the Niles-Milpitas area, visited during the latter part of week ending October 2 in company with Dr. M. W. Gardner. The tomato crop was almost a total loss from spotted wilt (virus), the peppers showed about

50% infection, and only scattered spotted wilt plants were found among the celery. Young celery in the same field has about 5 to 10% infection with aster yellows (virus). Older celery showed heavy infection with aster yellows and also heavy infection with Septoria blight.

In the Brentwood area in Contra Costa County, week ending October 16, one 6-acre field showed approximately 8% of the plants infected with the aster yellows virus. In the same field a number of plants showed a bacterial rot of the petioles. Scattered plants with western celery mosaic (virus) were found in another field of about 20 acres. -- Horace L. Barnett, Emergency Plant Disease Prevention Project.

REPORTS ON DISEASES OF CRUCIFEROUS CROPS: E. A. Walker reports that several cabbage fields heavily affected by black rot (Xanthomonas campestris) were observed in New Jersey during the week ending October 2, including a 1-acre field near Indian Mills in Burlington County with 98%, a 3-acre field in the Farmingdale section of Monmouth County with 80% in the early crop, and a field in Essex County with 30%. In a 6-acre planting of cabbage near Kokomo in northeastern Indiana, approximately 3% of the plants were affected with this disease at the end of September, according to R. C. Baines.

On cabbage in the plateau section -- "flats" -- of northeastern Georgia, October 4 to 8, G. M. Stone reported insect damage severe in all fields examined; Alternaria leaf spot [species not designated] prevalent, a high percentage of the plants having lost all lower leaves in some cases; and bacterial soft rot rather active in one field.

Botrytis rot was prevalent on cabbage heads in early plantings in low areas in Lincoln County, Oregon, visited by L. W. Boyle October 5. In some plantings a loss of as much as 10% was indicated. Sclerotia of the Botrytis were abundant in one specimen collected.

A moderate to heavy leaf infection of black leaf spot [Alternaria circinans] was observed in an 8-acre cauliflower field in Agawam, in Hampden County, Massachusetts, according to O. C. Boyd.

In the Gambrills area of Anne Arundel County, Maryland, E. A. Walker observed a 15-acre field of kale severely affected by yellows (Fusarium conglutinans). Counts gave 0, 0, 2, 18, 20, 26, 26, 26, 26, 28, 30, 35, 38, 40, and 46%, or an average of 24% yellows in this field. The area was visited September 6 to 11, when the lower leaf crop of Savoy kale had been harvested.

DOWNY MILDEW AND MOSAIC ON CANTALOUP IN SOUTHERN TEXAS: Downy mildew (Pseudoperonospora cubensis) was beginning to appear on susceptible kinds of cantaloups in a young variety test plot being carried on by Dr. G. H. Godfrey on the farm of the Lower Rio Grande Valley station at Weslaco, October 2. Mosaic (virus) was visible on occasional plants.

Downy mildew was beginning to appear on susceptible cantaloups at Winter Haven also, October 5 and 6. Several types of mosaic symptoms were seen, but none was present in more than a trace. -- G. M. Watkins, Emergency Plant Disease Prevention Project.

STORAGE DISEASES OF SQUASH IN MASSACHUSETTS: October 14 and 15 were spent inspecting squash storages in Middlesex County. Most of the crops had been stored although some were still in piles in the field. Those that had been housed had not been in storage long enough to develop the

customary storage troubles.

Bacterial wilt rot (Erwinia tracheiphila) was in no case observed on more than 1 or 2 squashes. It was found in Lincoln, Littleton, and Lowell.

Scab (Cladosporium cucumerinum) was observed almost exclusively on the seconds, or immature small squashes. Scab was less damaging than usual to both the foliage and the fruits of winter squash crops owing to the dry season. It was found on stored crops in Waltham, Lexington, Wayland, and South Sudbury.

Black rot (Mycosphaerella citrullina) is the principal disease of stored squash in Massachusetts. So early in the storage season, however, it was observed only in immature fruits. It was present in most of the houses in each of the 7 towns visited.

Miscellaneous rots, associated with such secondary organisms as Alternaria, Rhizopus, Fusarium, Phoma, and Phomopsis, were quite common on immature fruits in most storages. -- C. C. Boyd, Massachusetts State College, summary of surveys made by Robert C. Cassell and O. C. Boyd, accompanied by the county agent of Middlesex County.

BLOSSOM-END ROT OF SQUASH IN OREGON: In small garden plantings in Clatsop County, October 2, 2 types of blossom-end rot were prevalent and causing severe damage to the younger fruit on the vines. The primary cause is questionable. Botrytis sp. and bacteria were associated in the wet type of rot. In the dry rot, Fusarium sp. and various genera of Dematiaceae were noted. -- L. W. Boyle, Emergency Plant Disease Prevention Project.

WATERMELON DISEASES: E. A. Walker reported that, about the end of September, "A field near Seaford in Sussex County, Delaware, had 100% leaf spotting resembling that caused by the anthracnose organism (Colletotrichum lagenarium), although there may have been other leaf spot fungi present. This was a late patch, and a large number of the melons had been left in the field because of immaturity resulting from the killing of the leaves by the fungus. The melons were badly sunburned, and scattered anthracnose lesions were developing on many of them. Blossom-end rot was very prevalent, approximately 8% of the melons being affected."

In Louisiana L. H. Person observed one field of watermelons, planted in July for fall production of melons, that was heavily attacked by Alternaria blight (A. cucumerina). Every leaf was affected with an estimated half of the leaf area covered by the Alternaria spots.

OKRA DISEASES OBSERVED IN GEORGIA: One half-acre field in the Augusta area suffered severe damage from Fusarium wilt (F. vasinfectum) and root-knot. -- G. M. Stone, Emergency Plant Disease Prevention Project.

STUNTING OF ONIONS IN SOUTHEASTERN MINNESOTA: At Hollandale and Castle Rock, onions were stunted with poorly developed bulbs, many of them being soft. Definite identification of the disease has not yet been made. -- Ian W. Tervet, Emergency Plant Disease Prevention Project. Week ending September 18.

DISEASES OF EGGPLANT OBSERVED IN MARYLAND: Anthracnose (Colletotrichum atramentarium) was very destructive to the fruits in most fields observed

in Anne Arundel County, September 13 to 18, and losses of marketable fruit will amount to about 8% for the county. In one field near Harmony more than 30% of the fruits were rotted. Fusarium wilt (Fusarium sp.) was rather severe in a field where 6% of the plants were dying. In a field near Severn plants were severely affected by both Fusarium wilt and Phomopsis blight (Phomopsis vexans). Counts in this field gave 6, 24, 34, and 42%, or an average of 26.5% of the plants affected and dying. The fruits were severely spotted by Phomopsis, and many were already mummified. About 35% of the fruits were affected. Anthracnose and Phomopsis spots were often seen on the same fruits. -- E. A. Walker, Emergency Plant Disease Prevention Project.

SOUTHERN AND PHOMOPSIS BLIGHTS OF EGGPLANT IN GEORGIA: Two plantings were observed in the Augusta area of eastern Georgia during the week ending October 2. In a half-acre field about 50% of the plants were either killed or badly affected by southern blight (Sclerotium rolfsii). In the second field practically all of the plants and nearly all of the fruits were affected by Phomopsis blight and rot. -- G. M. Stone, Emergency Plant Disease Prevention Project.

EGGPLANT DISEASES IN SOUTHERN TEXAS: A trace of yellows (virus) was present in 2 eggplant fields at Hopedale in Maverick County (October 5, 6). No diseases were discovered in the considerable number of eggplant fields seen in Hidalgo County in the Lower Rio Grande Valley (October 5). One planting (about 1/10-acre) near Ysleta in the El Paso Valley irrigated farm section (October 11, 12) was a total loss from rootknot (Heterodera marioni). -- G. M. Watkins, Emergency Plant Disease Prevention Project.

VERTICILLIUM WILT OF EGGPLANT IN NORTHEASTERN INDIANA: Practically all of the eggplants in a half-acre planting near Kokomo were affected with Verticillium wilt (V. albo-atrum). -- R. C. Baines, Emergency Plant Disease Prevention Project. September 27 to October 2.

PEPPER DISEASES IN CONNECTICUT: Mosaic (virus) was generally prevalent but causing only very slight damage in one Cheshire planting. Blossom-end rot (physiogenic) was quite common throughout Connecticut, causing damage ranging from very slight to moderate depending on the location. -- R. C. Cassell, Emergency Plant Disease Prevention Project. September 26 to October 2.

PEPPER DISEASES IN NEW JERSEY, DELAWARE, AND MARYLAND: Several days were spent in southern and eastern New Jersey during the week ending October 2.

In several pepper fields near Sharptown in Salem County sun scald (non-parasitic) was severe on the fruits, resulting in about 25% loss. Common saprophytic organisms covered the sun scald lesions. Anthracnose (Colletotrichum nigrum) was present to a slight extent. Wilt (Fusarium annuum) was present in all fields and the loss will average 2% in this section.

Peppers in the area around Colts Neck in Monmouth County were practically free from diseases and sun scald, except for a small amount of anthracnose. A slight amount of Cercospora leaf spot (Cercospora capsici) was

observed in a field near Shrewsbury. In the Farmingdale area in one field over 20% of the fruits showed sun scald; affected fruits were discarded during harvest. In a small planting near Matawan about 1% of the plants were stunted, possibly the effect of cucumber mosaic.

In Middlesex County, sun scald was severe, amounting to 40%, in several fields in the South Amboy area. About 1% Fusarium wilt was observed in one field.

In Delaware, Sussex County was visited on a short trip during the period from September 20 to 25. A severe outbreak of Cercospora leaf spot was observed in a 2-acre field east of Seaford, infection appearing on some leaves of each plant with evident defoliation on some plants. Slight infection was also observed on the fruit pedicels. Only a slight amount of sun scald was observed, and the fruits were mostly free from anthracnose lesions.

Anthracnose was general in most pepper fields observed in Anne Arundel County, Maryland, September 13 to 18, and loss would probably exceed 5%. Sun scald was severe on the fruit in all fields, and the killed areas were invaded by secondary organisms. In one field near Severn 60% of the fruits were discarded because of the combined effect of anthracnose and sun scald. Fusarium wilt was observed in most fields, and the loss for the county will average 3%.

In Caroline County on the Eastern Shore of Maryland, September 20 to 25, a slight amount of anthracnose was observed in all small plantings. Sun scald was moderate to severe on the fruits, accompanied by the usual saprophytic invaders. Cercospora leaf and fruit spot was observed in a 2-acre field near Federalsburg. A soft rot organism causing a mushy decay affected the fruits in a field in the Preston area. -- E. A. Walker, Emergency Plant Disease Prevention Project.

PEPPER DISEASES IN GEORGIA: Several small fields of Bell peppers were examined in the mountain section of north Georgia. Mosaic (virus) was found in all fields; in one a large percentage of the plants was affected. Cercospora leaf spot and anthracnose were also prevalent. Diseases observed in the commercial pimento-growing area are reported in a separate note. -- G. M. Stone, Emergency Plant Disease Prevention Project.

PEPPER DISEASES IN SOUTHERN TEXAS: In the farm section around Laredo, Webb County, October 5, tomatoes and peppers were the chief crops in active growth. A small amount, much less than 1%, of the pepper showed mosaic (virus).

At Hopedale and Quemado in Maverick County, October 5 and 6, a considerable acreage of peppers was seen. An occasional plant with mosaic was found in every field. One field of peppers at Hopedale showed spots of wilted plants, which upon closer examination were found to have a girdling band of brownish decayed tissue just above the ground line. No organism has been seen in this connection but it seems probable that the disease was Phytophthora blight (P. capsici). The loss was about 2% in this field.

In the El Paso Valley irrigated farm section, October 11 and 12, peppers in several locations showed sun scald of a portion of the fruits, and in one field about 5% of the plants were dead of wilt symptoms, possibly caused by Verticillium albo-atrum. -- G. M. Watkins, Emergency Plant Disease Prevention Project.

PEPPER DISEASES IN ARKANSAS: Southern blight (Sclerotium rolfsii) was found in several small plantings in Arkansas County. In a garden planting at Stuttgart a loss of nearly 3% was attributed to this disease and Verticillium wilt together. -- Howard W. Larsh, Emergency Plant Disease Prevention Project.

TOMATO LEAF MOLD IN GREENHOUSES IN MASSACHUSETTS: On a farm in Dracut, Middlesex County, a general, heavy infection with leaf mold (Cladosporium fulvum) was present in each of 3 large greenhouses where the plants were just beginning to bear (October 14, 15). Prospects so far indicate considerable reduction in yield as the fruits appeared to be undersized. This disease usually appears on most of the fall hothouse crops before heating is started. -- C. C. Boyd, Massachusetts State College, summary of surveys made by Robert C. Cassell and C. C. Boyd, accompanied by the county agent of Middlesex County.

TOMATO DISEASES OBSERVED IN RHODE ISLAND: Practically all of the later fruits in a large planting on a nursery property in Newport were badly affected by anthracnose (Colletotrichum phomoides), which prevented harvesting the last crop. Early blight (Alternaria solani) was causing very slight damage in one field in Little Compton. Moderate to severe attack by Septoria blight (S. lycopersici) was observed in Newport; slight to moderate infection in Little Compton. -- R. C. Cassell, Emergency Disease Prevention Project. October 10 to 16.

TOMATO DISEASES IN CONNECTICUT: Anthracnose was causing slight to moderate damage in a field in Southington. Early blight and Septoria spot occurred in Cheshire, each disease causing up to moderate damage in one field. Blossom-end rot (physiogenic) was generally prevalent in the State this year. Damage ranged from practically none to severe, depending upon the location. -- R. C. Cassell, Emergency Plant Disease Project. September 26 to October 2.

TOMATO DISEASES IN DELAWARE: Sussex County was visited on a short trip during the period from September 20 to 25. Seven tomato fields containing about 30 acres were examined. In one field 3% of the plants were killed by Fusarium wilt (F. bulbigenum var. lycopersici) but the disease is not a serious problem in this area. Early blight was present on most plants; severe leaf and stem infection was observed in 2 fields, where the lower and middle leaves were dead. Late-planted tomatoes were mostly slightly attacked. Septoria leaf spot was observed in one field near Laurel. Late blight was not seen. -- E. A. Walker, Emergency Plant Disease Prevention Project.

TOMATO DISEASES IN MARYLAND: In Anne Arundel County, September 13 to 18, early blight was causing considerable defoliation of the lower leaves in all fields visited, infection on the middle leaves was just appearing, and the top leaves were free. A considerable amount of stem canker was noted on older plants. No fruit infection was observed.

Late blight (Phytophthora infestans) was observed on the foliage occasionally, but it has not been a serious problem during this drought year.

Blossom-end rot had decreased in amount since earlier observations, and

most of the affected fruit had dropped off or been picked and discarded. Stem-end cracking (non-parasitic) had increased, following a light rain of the preceding week which resulted in all fruits, ripe or green, becoming severely cracked in a concentric and radial pattern around the stem end, and extending about a quarter of the circumference down the side of the fruit.

Fields in Talbot, Queene Anne, and Caroline County on the Eastern Shore were visited during the period from September 20 to 25.

In Talbot County, tomatoes coming into a tomato canning factory near Easton were very small, averaging about 1-3/4 inches in diameter. The fruit was free from fungus and bacterial diseases. Severe stem-end cracking of all fruits resulted in a considerable waste at the peeling tables. Blossom-end rot was evident on some tomatoes, and some fruits with worm-eaten areas had Alternaria sp. growing on the affected part.

On the way to Preston observations were made in 6 fields containing 28 acres. Blossom-end rot was moderate, the loss averaging 8%. Early blight was observed in each field, causing slight to moderate damage since it was confined to the lower and middle leaves and stems. Late blight and Septoria blight were not observed. In one field stem and leaf spots resembling those caused by Phoma destructiva were noted. Fusarium wilt was observed in 3 fields; 12% of the plants were affected in one of them.

In the Cordova area 7 tomato fields containing 20 acres were visited. Blossom-end rot was less prevalent here than in the Easton area. Fusarium wilt was found in only 2 fields; in one 20% and in the other 50% of the plants were wilting. Early blight was present but less destructive than farther south in the county; and stem end cracking was less pronounced on fruit than in other areas. In one field leaf symptoms resembled greenhouse leaf mold (Cladosporium fulvum) infections.

In Queen Anne County early blight was slight to moderate in all tomato fields visited. Septoria blight was observed in one field near Centerville. Most blossom-end rot was seen in the Wye Mills section of the county; 2 fields in this section were observed with 10 and 20% of Fusarium wilt. In the Kent Island section tomato plants were later and greener than in other sections visited; early blight was doing a slight amount of damage to the lower leaves; blossom-end rot was not observed; Fusarium wilt was practically absent except for one medium-early field that showed 10 to 12%, with 25% diseased plants in one portion.

Seven fields representing about 50 acres were visited in the Preston area of Caroline County. Blossom-end rot was present in all and the loss would average about 1.5%; in one field over 5% of the fruits were affected. Septoria leaf spot was generally absent, and when seen occurred only in slight amounts. Early blight was present in all fields; 5 were severely affected, with most of the leaves dropped and numerous stem cankers. A light attack of late blight was observed in one field. Fusarium wilt was present in most fields; in one 25% of the plants were affected. The average from wilt for the section will be about 8%.

In the Federalsburg area 15 fields containing about 40 acres were visited. Diseases were observed as follows: Early blight in various degrees of severity occurred in all fields. Fusarium wilt was noted in 5 fields, averaging about 1% of the plants affected; in one field counts showed 20, 24, 65% or an average of 36% wilt. Bacterial wilt (Pseudomonas solanacearum) was severe in one field. One field was severely affected (35%)

by a basal canker that girdled the stems of mature plants and caused rapid wilting; it was possibly due to a species of Phoma. -- E. A. Walker, Emergency Plant Disease Prevention Project.

TOMATO DISEASES IN GEORGIA: Only 2 fields or "patches" of late tomatoes were seen in the Augusta area during the week ending October 2. In one 3-acre field, 25% of the plants were killed and an additional 50% severely damaged by southern blight (Sclerotium rolfsii). Rootknot nematodes and Fusarium wilt were also present. Another, 2-acre, field was severely damaged by early blight. Very few tomatoes could be harvested from either field.

Early blight was found to be causing heavy damage to late plantings in the mountain section of northern Georgia, October 4 to 8. The plantings were small, mostly for home use. -- G. M. Stone, Emergency Plant Disease Prevention Project.

TOMATO DISEASES OBSERVED IN NORTHEASTERN INDIANA: Tomatoes in general were defoliated 70 to 90% by Septoria lycopersici in northeastern Indiana. Most of the fruit being picked was of very poor quality, being severely cracked and often partially rotted (Rhizoctonia solani, etc.). In 1/3 of the fields about 15% of the fruit was affected slightly with anthracnose and bacterial spot (Xanthomonas vesicatoria). -- R. C. Baines, Emergency Plant Disease Prevention Project. September 27 to October 2

TOMATO DISEASES IN MISSOURI: The commercial tomato fields visited in Livingston and Grundy Counties during the week ending October 2 had been picked of the first fruit set. The second pickings, on the basis of fruit set and size, will be light. Septoria leaf spot was general and causing much defoliation in all fields. The plants showed from 50 to 80% defoliation. All fields showed the presence of Fusarium wilt, ranging from a trace to 3%, averaging about 1%. The Rutgers variety is rather widely grown in this area. No differences were observed in fields that had been set with southern-grown plants and locally-grown plants, respectively. Approximately 1% of the fruits showed bacterial spot, ranging from a trace to 10% in the individual fields. A trace of anthracnose was noted on ripe and ripening fruits. From 15 to 20% of the fruits were showing secondary rots following growth cracks, sun scald, and insect injuries. -- T. W. Bretz, Emergency Plant Disease Prevention Project.

TOMATO DISEASES IN OREGON: On a farm in the area north of Albany in Linn County, October 12, late blight was evident but had been controlled by dusting so that no economic loss of the crop occurred. No evidence of the disease was found on the fruits.

Blossom-end rot occurred in limited areas of the field. This disease was reported to have caused considerable loss in the earlier crop. Economically this was no loss since the cannery and local market could not take the supply of good fruit. An unusual dry rot followed the blossom-end rot in this field. The tops of the fruit were wrinkled and bright yellow in color with a dark area at the blossom end. -- L. W. Boyle, Emergency Plant Disease Prevention Project.

TOMATO DISEASES IN CENTRAL CALIFORNIA: During the latter part of the

week ending October 2, Dr. M. W. Gardner of the California Agricultural Experiment Station and I made a trip to the area around Livermore, Niles, and Milpitas in Alameda and Santa Clara Counties. The primary purpose of the trip was a survey of the tomato diseases in this area.

Near Livermore bacterial canker (Corynebacterium michiganense) was seen in the fields of 2 owners. Here the disease was severe. One field showed approximately 75% loss due to it. Indications were that most of the infection had occurred when the plants were set out in the field. Another field of 27 acres had been plowed up because of early heavy infection of canker. The plant beds were examined and a number of old canker plants were found. The plants were grown from seed selected by the owners. The loss in these fields was very heavy and it was a clear example of results from the use of diseased seed. No bacterial canker was found in any other area examined on this trip.

Spotted wilt (virus) was also common near Livermore, and is probably confused with canker by some growers. Spotted wilt losses in other areas visited varied greatly, ranging from only a trace to total loss. One field had been plowed up because of heavy early infection. One interesting combination of tomatoes, peppers, and celery was seen growing in close proximity on one farm. The tomato crop was almost a total loss due to spotted wilt. The peppers showed about 50% infection, and only scattered spotted-wilt plants were found among the celery.

The farm of a seed company suffered heavy loss from spotted wilt. The heavy infection in this case was thought to be due to the fact that winter lettuce, also heavily infected, had been grown nearby last spring.

During the week ending October 16 a trip was made into the Brentwood area in Contra Costa County, accompanied by Dr. Gardner, primarily for the survey of diseases of tomato and other vegetables in the area. Some fields of tomatoes were past their prime but several fields of late tomatoes for green fruits were examined.

Severe infestations of nematodes (Heterodera marioni) were found in 2 fields. In 1 10-acre field the dead plants covered an area of more than an acre in sandy soil at one end of the field. In another field several miles away an area of approximately 1 acre was heavily infested in heavy soil. A trace of bacterial canker was found in one of these fields. Scattered plants with curly top were found over the entire area.

One tomato plant with big bud (virus) was found east of Brentwood. A search was made over a large portion of the field but no other diseased plants were found. So far as could be determined, this represents the first report of this disease in this part of the State. It was reported from the southern part of the State in 1941.

A search was made for buckeye rot (Phytophthora parasitica) of the fruit. Although the environmental conditions seemed to be ideal for its development the disease was found in but one field, indicating that the fungus is not abundant in the soil this season. Soil rot (Rhizoctonia solani) was found in the same field in which buckeye rot was found. Only a few rotted fruits were seen. So far as the records show, this represents the first report of the soil rot of the fruit in this part of the State, although the perfect stage of the fungus

(Corticium solani) [Pellicularia filamentosa][1/] has often been found on the fruit surface.

One of the most serious troubles through central California this season has been sun scald of the fruits that followed severe damage by the silver mite. -- Horace L. Barnett, Emergency Plant Disease Prevention Project.

SPINACH DOWNY MILDEW: Downy mildew (Peronospora effusa) was distributed generally over a field in Waltham, Massachusetts but was causing only slight loss. The disease is less damaging than usual to fall spinach generally, according to a summary by O. C. Boyd, Massachusetts State College, of surveys made by Robert C. Cassell and O. C. Boyd in October.

In Connecticut at the end of September downy mildew was very severe in a large field in Cheshire where the loss was expected to be 5 to 10%, according to R. C. Cassell.

DISEASES IN MARYLAND VICTORY GARDENS: In a garden near Federalsburg in Caroline County on the Eastern Shore, 85% yellows was observed on cabbage; 10% Fusarium wilt in pumpkin; 10% Cercospora stem and leaf spot (C. carotae) on carrots; peppers were free from diseases. A half-acre cabbage patch showed 3% black rot. -- E. A. Walker, Emergency Plant Disease Prevention Project.

FURTHER REPORT ON BACTERIAL RING ROT OF POTATO IN NEW YORK

Leon J. Tyler

An intensive survey was undertaken in Steuben County, during the week ending October 16, in an effort to learn more about the distribution and destructiveness of the potato ring rot (Corynebacterium sepedonicum) disease. Mr. L. C. Knorr, of Cornell University, assisted in identifying diseased tuber specimens.

A total of 18 farms and 6 large potato storage warehouses were visited. Farms visited were located in the vicinites of the following Steuben County towns: Howard, Avoca, Atlanta, Wallace, Ingleside, Prattsburg and Wheeler. Two potato warehouses were visited in each of the following towns: Avoca, Atlanta, and Prattsburg.

Ring rot diseased tubers were found in 5 fields in the vicinity of Avoca. Since the tubers had been harvested previous to the visits, accurate counts could not be made. However, from the number of ring rot diseased tubers left in the fields and from estimates obtained from the growers it

---

1/ [According to Rogers, the perfect stage of Rhizoctonia solani is a Pellicularia and is properly designated P. filamentosa (Pat.) Rogers. Corticium solani (Prill. & Del.) Bourd. & Galz., as well as C. microsclerotia Weber, etc., are relegated to synonymy. In the imperfect stage the name Rhizoctonia microsclerotia Matz is a synonym of R. solani Kühn. (Reference: Rogers, Donald P. The genus Pellicularia (Thelephoraceae). Farlowia 1: 95-118. Jan. 1943].

appeared that a trace to about 3% of ring rot prevailed.

On a farm south of Prattsburg, stored Katahdin and White Rural potatoes exhibited considerable ring rot, especially the former variety. Inquiry revealed that ring rot had destroyed 40 to 50 bushels of Katahdins per acre on this farm and 2 to 5 bushels per acre of White Rurals. Apparently ring rot was introduced onto this farm 3 or 4 years earlier when the grower bought Katahdin potatoes for seed (non-certified) from a Prattsburg potato buyer.

In the 6 potato warehouses a total of 20 different lots (each belonging to a different grower), were examined. Ring rot was found in 9 of these lots. Usually not more than 1 to 2 diseased tubers were found in a 200- to 400-tuber sample from each lot. Since rotten tubers are mostly left in the field the number found in storage does not give an adequate indication of the actual loss due to ring rot. However, the presence of the disease in different potato storage lots in the different warehouses indicates that the range of the disease is rather wide in Steuben County.

Ring rot diseased tubers were found in almost all cull barrels examined at each of the 6 warehouses, and this fact also serves to indicate that the disease is much too prevalent in the county.

Ring rot was found in tubers of the following varieties: Earlaine, Katahdin, Sebago, Sequoia, and White Rural.

Considerable late blight (Phytophthora infestans) of tubers was seen in the vicinity of Avoca. Green Mountain potatoes grown on the hills southwest of the town exhibited as much at 5%. Katahdins grown on the flats showed about 2%. Almost all fields and warehouse bins exhibited blighted tubers but usually the number was low, probably representing but a fraction of 1%.

EMERGENCY PLANT DISEASE PREVENTION PROJECT

OTHER REPORTS ON POTATO DISEASES

POTATO DISEASES AND YIELDS IN RHODE ISLAND: In one 10-acre field in Kingston, about 0.5% of ring rot (Corynebacterium sepedonicum) was showing as the potatoes were being dug. The owner reported that the seed had been purchased as certified Green Mountain Maine seed.

No severe cases of scab (Actinomyces scabies) were found in Rhode Island. Very slight amounts were found in Little Compton, Tiverton, Lonsdale, Kingston, Slocum, and Portsmouth. In one field in Kingston a moderate amount of scab would cause some loss.

A very slight amount of Rhizoctonia was observed on the tubers in 2 fields in Kingston.

One 5-acre field in Kingston showed about 1% leaky potatoes, probably due to malnutrition, at digging time.

In the Kingston, Slocum, and Valley Falls area the average yield will apparently be about 135 to 150 bushels per acre. In the whole area only one good field, of Sebago, was observed, producing about 300 bushels per acre. Most fields were yielding between 130 and 250 bushels. One field, of 20 acres, was seen and others were reported, that would not be dug because of the small size of the potatoes due to drought.

In the Newport-Portsmouth area yields were somewhat better and would probably average about 200 bushels.

Best yields were being obtained in Tiverton and Little Compton, where the average would be close to 300 bushels. -- R. C. Cassell, Emergency Plant Disease Prevention Project. October 10 to 16.

POTATO DISEASES IN NEW JERSEY: Several fields of medium early potatoes were being dug in the Holmdel area of Monmouth County. Examination of the tubers showed no late blight (Phytophthora infestans), very slight secondary tuber growth, and only slight scab. -- E. A. Walker, Emergency Plant Disease Prevention Project. September 27 to October 2.

POTATO DISEASES IN DELAWARE: In small plantings observed in Sussex County, most plants showed slight amounts of hopperburn and early blight (Alternaria solani). No late blight leaf infection was noted. -- E. A. Walker, Emergency Plant Disease Prevention Project. September 20 to 25.

POTATO DISEASES IN MARYLAND: Late-crop potatoes in Talbot County grown principally for farm-home use showed severe early blight and hopperburn on the green foliage. No late blight was observed. Small garden plots observed in Queen Anne County were practically free from foliage diseases.

Three small plantings were observed in Caroline County; one showed severe hopperburn and early blight; another was affected with brown rot (Pseudomonas solanacearum). The stand in these fields would be about 1/2 to 3/4 normal. -- E. A. Walker, Emergency Plant Disease Prevention Project. September 20 to 25.

CONDITION OF POTATOES UNLOADING AND IN WAREHOUSES AT WATERLOO, IOWA: Potatoes in commission merchants' warehouses and unloading from railroad cars were examined for condition upon arrival at Waterloo during the week ending October 16. Potatoes on hand in the warehouses, and those being unloaded, were in good condition. Only an occasional wet-spotted bag was observed containing 1 or 2 tubers showing soft rot. No evidence of late blight tuber infection was noted. Rhizoctonia was common in most lots examined but was of minor importance. Slight wireworm damage and scab infection was noted. Some earlier shipments were reported as showing considerable scab and some of the early cars also were reported as having had "a lot of disease", presumably some kind of tuber rot. -- T. W. Bretz, Emergency Plant Disease Prevention Project.

POTATO DISEASES IN OREGON: Potato late blight was severe in the Linn County area north of Albany, October 12. Potatoes were grown in comparatively small fields and no apparent effort had been made to control the disease. Rhizoctonia was also prevalent in this area.

Both diseases were prevalent in Multnomah County in the area from Gresham east and north to Pleasant Home (October 16). Estimates of loss from late blight average about 15%, and if care is not used in harvesting and subsequent storage the loss may be greater.

In the lower area of Multnomah County (October 18) Rhizoctonia was severe in some cases. Late blight was also prevalent. Potatoes from several hills dug in 2 fields were extremely knobby. Sclerotia of Verticillium albo-atrum were noted in several fields.

Late blight was less severe in potatoes grown on a bulb farm in Clackamas

County (October 19), although no control measure had been used. Rhizoctonia was very prevalent and had caused severe injury to about 30% of the hills. The perfect stage, Pellicularia filamentosa (Corticium solani), was evident as a white coating on the bases of the stems. The land was previously used for the production of bulbs. -- Lytton W. Boyle, Emergency Plant Disease Prevention Project.

REPORTS ON DISEASES OF FRUIT AND NUT CROPS

APPLE DISEASES IN RHODE ISLAND: Control of scab (Venturia inaequalis) has varied tremendously this year in the main apple region of Rhode Island. In the orchards visited the range was from good control to 100% scabby fruits. Even with some of the better growers the crop was reduced from 20 to 30% by scab, and on the whole scab probably kept from 15 to 20% of the apples from making the No. 1 grade as they otherwise would have done.

Other important factors accounting for losses to the Rhode Island apple crop were drought and insects. Drought alone probably caused a 25% loss through the reduction in size of the fruit. The apple maggot or "railroad worm", codling moth, and curculio, were important. -- R. C. Cassell, Emergency Plant Disease Prevention Project. Report October 10 to 16.

APPLE DISEASES IN CONNECTICUT: In one Hamden orchard scab was general on the leaves but only a slight amount occurred on the fruits. In the Shuttle Meadow area scab was general and severe on the leaves but there was practically none on the fruits. In Southington and Middletown also infection of the leaves was general and severe, and some fruits were scabbed but not excessively.

The most severe cases of scab were found in Cheshire. In one large orchard only 40 to 45% instead of the normal 80 to 85% of McIntosh fruit were grading No. 1. This was the worst scab attack ever experienced in this orchard. In another large Cheshire orchard the owner reported a 30% reduction of No. 1 McIntosh fruit.

It was generally observed throughout New England -- as with the 2 severe cases of scab in Cheshire -- that many good apple growers suffered heavy losses from scab because of breakdown of spray machines at critical times and inability to obtain repair parts in a reasonable period. Thus, the grower was forced to assume a heavy loss from scab this year since he was not able to keep up the spray program necessary to prevent it.

Apple-cedar rust (Gymnosporangium juniperi-virginianae) was prevalent throughout Connecticut but confined almost entirely to Wealthy. Even on Wealthy rust was limited primarily to the leaves, with practically no fruit infection. In Hamden leaf infection was very slight, in Cheshire slight to very severe, in Southington very severe, in Shuttle Meadow severe, and in Middletown slight.

Black rot (Physalospora obtusa) leaf spot (frog-eye) was generally present, usually accompanied by very slight fruit rot, in Hamden, Cheshire, Shuttle Meadow, and Middletown.

Fruit spot (Mycosphaerella pomi) was reported to occur.

A local, moderate to severe case of infectious chlorosis or mosaic (virus) was observed in Middlefield.

Very severe cases of Baldwin russet (physiogenic) were observed in Cheshire and Middletown; moderate to severe cases in Hamden.

The prolonged dry season in Connecticut has undoubtedly prevented apples from sizing up as they should. Leaves were rolling somewhat on the trees, and the fruits were undersized. Some growers actually contended that the fruits were shrinking in size on the trees. -- R. C. Cassell, Emergency Plant Disease Prevention Project.

APPLE DISEASES IN NEW JERSEY: Several orchards were visited in the vicinity of Colts Neck in Monmouth County. Scab was very severe in one orchard and moderate in others on susceptible varieties. Infection on young leaves was very severe. Fruits were only lightly attacked. The different varieties showed infection as follows:

Variety	Leaf infection	Fruit infection
Stayman Winesap	Moderate to severe	Mild
Grimes Golden	Very slight to slight	None
Delicious	Severe to very severe	Moderate
Rome Beauty	Moderate	Very slight
McIntosh	Severe	Moderate

Rome Beauty showed slight amounts of apple-cedar rust on the leaves, and of leaf injury resembling spray-burn. -- E.A.Walker, Emergency Plant Disease Prevention Project. September 27 to October 2.

APPLE DISEASES IN MARYLAND: In an orchard in the Easton area of Talbot County on the Eastern Shore, scab was observed only on a small block of large Stayman Winesap trees, on both fruit and leaves; bitter rot (Glomerella cingulata) affected the Nero and Grimes Golden varieties to the extent of 2 and 1%, respectively; black rot was observed on 2% of Nero fruit. No fire blight was observed in this orchard. The Stayman Winesap fruit was cracking severely.

In the Cordova area apples were free from diseases other than a slight amount of apple-cedar rust on York Imperial, but severe spray burn due to summer oil sprays was observed on the foliage of all varieties. -- E. A. Walker, Emergency Plant Disease Prevention Project. September 20 to 25.

APPLE DISEASES IN KENTUCKY AND TENNESSEE: In Warren County in south-central Kentucky, one grower with 3 small orchards, and less than 10% of a crop, attempted to apply the pink spray only but both of his sprayers were broken down and repair parts were unavailable. The common diseases,--frog-eye and black rot, scab, sooty blotch (Gloeodes pomigena), fly-speck (Leptothyrium pomi), blotch (Phyllosticta solitaria) on Grimes Golden -- were abundant, and in one orchard about 100 bushels were trucked to market while 300 and 400 bushels were largely lost due to diseases and insects.

In an orchard of about 500 acres in Warren County, nearly a full crop was obtained but its value was reduced considerably by diseases. Scab and frog-eye were severe; black rot and bitter rot were abundant; sooty blotch, fly-speck, and quince rust (Gymnosporangium clavipes) were present.

On a small orchard of 500 trees in Putnam County in eastern Tennessee, 2 sprays, bloom and second-cover, were applied. Scab was severe and blotch and black rot were common. The loss was large but difficult to estimate

because the fruit had mostly been disposed of before the orchard was visited.

A small orchard of Delicious in Bradley County had a full crop but scab was the chief problem. Black rot was second in importance.

In a 40-acre orchard in Hamilton County there was nearly a full crop, but the calyx spray was applied late and codling moth was severe. Small amounts of blotch, black rot, and frog-eye were present.

To 200 trees in Henderson County the owner applied 9 sprays and obtained the cleanest fruit he had ever produced. Bitter rot was present on 5 Jonathan trees. The loss from diseases was estimated at $50. -- R. A. Hyre, Emergency Plant Disease Prevention Project. September 27 to October 1.

FIRE BLIGHT ON APPLE AND PEAR IN TEXAS: Fire blight (Erwinia amylovora) caused loss of considerable wood this season in both pears and apples in one home orchard at Ysleta, El Paso County. -- G. M. Watkins, Emergency Plant Disease Prevention Project. Summary for October.

APPLE DISEASES IN ARKANSAS: Black rot was observed in nearly all orchards examined from Summers to Fayetteville. Infection was observed on the fruits, as well as the characteristic frog-eye spot on the leaves. In several orchards near Lincoln the loss was nearly 5%.

Scab was found on a group of trees in one orchard, causing less than 1% loss.

Twig cankers and leaf spotting due to blotch were observed on the variety Yellow Transparent in the Lincoln area.

Most damage to apples, however, resulted from infestations of codling moth and leafhoppers. Leafhopper injury in most orchards was severe. -- Howard W. Larsh, Emergency Plant Disease Prevention Project. September.

APPLE DISEASES OBSERVED IN OHIO: A large apple orchard was inspected in southeastern Ohio. The varieties grown were Grimes Golden, Delicious, Golden Delicious, Rome Beauty, and Stayman Winesap.

The apple pox organism, Helminthosporium papulosum, was severe on the twigs and smaller limbs of Delicious and Rome Beauty, causing a pitting of the bark that resulted in numerous dead twigs. Lower smaller limbs that were shaded were also killed out. On Grimes Golden there was little twig pitting but the fruit was severely damaged. Small dark brown lesions from 2 to 6 mm. in diameter were numerous on 25% of the fruits and present on most of the remainder. The organism was identified by Dr. C. C. Allison, Extension Pathologist for Ohio. The disease appears to be reduced but not fully controlled by present spraying practices.

The orchard was almost free from fire blight.

Scab was rather prevalent in certain spots in the orchard. Grimes Golden, Rome Beauty, and Delicious were showing varying amounts of scab on the fruit. On leaves scab was present but lesions were not numerous except on a few trees where a failure of the spray applications resulted in partial defoliation.

The fly-speck fungus was found on Rome Beauty fruits on several unsprayed young trees.

Drought spot was present but not extensive on red Rome Beauty. -- M. R. Harris, Emergency Plant Disease Prevention Project. October 4 to 9.

APPLE DISEASES IN NORTHEASTERN INDIANA: An examination of 6 orchards revealed that more fruit was affected severely with scab in northern Indiana than had occurred for a number of years. The fruit in one well-drained and sprayed orchard near Goshen was nearly free from scab. In an orchard near Peru, approximately 30% of the Rome Beauty and Delicious and 50% of the Golden Delicious varieties were scabbed. Between 50 and 90% of the fruit of McIntosh, Delicious, Golden Delicious, and Winesap were affected with scab in 4 orchards. In these latter orchards approximately 1/3 of the affected fruit was scabbed severely.

The leaves in all of the orchards were infected slightly or moderately with Physalospora obtusa (frog-eye spot). In one orchard a trace of apple-cedar rust was found on the leaves and fruit. -- R. C. Baines, Emergency Plant Disease Prevention Project. September 27 to October 2.

BROWN ROT ON PEACH IN RHODE ISLAND: At Portsmouth a grower reported picking 500 bushels of peaches, the only peaches I know of that were produced in New England this year. The grower reported a considerable amount of brown rot (Monilinia fructicola) since the trees were not well sprayed because of the small crop. -- R. C. Cassell, Emergency Plant Disease Prevention Project.

BACTERIAL SPOT ON PEACH IN CONNECTICUT: Xanthomonas pruni was causing slight to moderate damage to the foliage of all trees in one Middletown orchard. -- R. C. Cassell, Emergency Plant Disease Prevention Project.

PEACH DISEASES IN TENNESSEE: An orchard in Bradley County in eastern Tennessee had 2% of the normal crop. The grower estimated a loss of 50 bushels or $175 due to brown rot. About 7% of the foliage had been killed by bacterial spot. -- R. A. Hyre, Emergency Plant Disease Prevention Project. September 27 to October 1.

PEACH DISEASES IN ARKANSAS: Several orchards were examined in Sevier and Little River Counties in southwestern Arkansas. In orchards between DeQueen and Horatio 3 diseases, bacterial spot, scab (Cladosporium carpophilum), and brown rot, were prevalent. Bacterial spot and scab were evident on the leaves; brown rot mummies were observed on the ground and clinging to the trees. -- Howard W. Larsh, Emergency Plant Disease Prevention Project. September.

BROWN ROT OF STONE FRUITS IN CENTRAL CALIFORNIA: In Contra Costa County the large number of dried blossoms blighted by the brown rot fungus (Monilinia fructicola or M. laxa) indicates that there may be an abundance of spores in these orchards next spring. -- Horace L. Barnett, Emergency Plant Disease Prevention Project. Week ending October 16.

IMPORTANCE OF WALNUT BLIGHT IN CENTRAL CALIFORNIA: A trip was made to Walnut Creek and Danville in Contra Costa County, in the company of Dr. P. A. Ark and Dr. M. W. Gardner, for the purpose of examining Persian walnuts for blight (Xanthomonas juglandis). One hulling and drying shed was visited after examining the trees in the orchard. This orchard was considered by Dr. Ark to be a fair representative of the walnut orchards in this section of the State. Out of 2100 sacks that had been harvested

to date, 157 sacks had been culled out at the shed just after being hulled. By actual count approximately 54% of the culls were blighted. Thus, the blighted walnuts discarded at the shed represented approximately 4% of those harvested. If the blighted walnuts left in the orchard and those dropping off because of blight early in the season, were included, the percentage of loss would be considerably greater.

Boron injury to walnuts was very general and often severe throughout the Brentwood area in this county. -- Horace L. Barnett, Emergency Plant Disease Prevention Project. Week ending October 16.

BRIEF NOTES ON PLANT DISEASES

SUCCESSFUL CONTROL OF TIP BLIGHT OF TOMATO: In July 1942, Leach and Berg (PDR 26(12/13): 278. July 1/15, 1942) reported a severe outbreak of tip blight (virus) of young tomato plants grown for sale in a greenhouse near Morgantown. The disease had caused a loss of plants in excess of 50% for 2 successive years. As soon as the disease had been identified definitely and its means of transmission determined, a control program was worked out for the greenhouse owner. This program was based on an effort to control the vector, Thrips tabaci, which was very abundant in the greenhouse.

A survey showed that, in addition to tomatoes, peppers, and numerous ornamental plants grown in the greenhouse, the weed Galinsoga parviflora was serving as a host plant and breeding place for the thrips. The first step in the control program consisted in a thorough clean-up of this and all other weeds in and near the house. Many were destroyed with a gasoline torch and the others were pulled and burned.

In late summer the plants in the greenhouse were reduced to the smallest quantity needed for propagation. A spray program was then started, consisting of alternate applications to all plants in the greenhouse of a proprietary contact insecticidal spray (Loro) and the standard tartar-emetic spray for thrips. This spray program was continued throughout the fall and winter at intervals of approximately 2 weeks. In early spring when tomatoes were planted the sprays were applied at more frequent intervals. The young tomato and pepper plants in the flats were sprayed alternately with the 2 sprays at intervals of one week or less.

As a result of this program excellent control of the thrips was obtained, and losses from tip blight were reduced to negligible proportions. No tip blight was observed until the season for plant production was practically over, and only 3 flats of over-age plants were discarded because of tip blight infection. Other tomato plants kept in the greenhouse throughout the summer remained free of tip blight. -- J. G. Leach and Anthony Berg, West Virginia Agricultural Experiment Station, Morgantown.

TOBACCO PARASITIZED BY SQUAW-ROOT IN TENNESSEE: Specimens of tobacco with the parasite, Conopholis americana (the common name is squaw-root) were sent to Dr. C. D. Sherbakoff from Giles County. The parasite was generally distributed over the field. The loss suffered is not known. -- R. A. Hyre, Emergency Plant Disease Prevention Project.

SOYBEAN DISEASES IN KANSAS: Two fields of soybeans were examined in Anderson and Franklin Counties (October 19 to 21). Anthracnose (Glomerella glycines) was present in both fields; pod and stem blight (Diaporthe sojae) was found in one field. The small black stem spots, cause not determined, were present in both fields. -- Stuart M. Pady, Emergency Plant Disease Prevention Project.

ROOTKNOT AND RHIZOCTONIA ON COFFEEWEED IN FLORIDA: Plants in a portion of one of the tobacco test plots at the North Florida Experiment Station at Quincy where coffeeweed (Cassia toro) was grown in a 2-year rotation with tobacco, as a cover crop, were severely attacked by root knot (Heterodera marioni). In other cover crop plots seedlings of both coffeeweed and cowpeas, of recent planting, were found to be wilting and dying as a result of attack by some soil organism, probably Rhizoctonia solani.-- Arthur S. Rhoads, Emergency Plant Disease Prevention Project. July 25 to August 31.

DISEASES OF GUAYULE OBSERVED IN TEXAS: Crown rot or collar rot was killing guayule in a small experimental planting at the Experiment Station at Ysleta. About 10% of the plants had died. Diseased wood from dying plants was cultured later and yielded chiefly a species of Fusarium. Campbell, Leach, Presley, and Snyder (PDR 27: 65. Feb. 1, 1943) reported finding a Phoma most frequently in connection with guayule collar rot symptoms. The disease seen at Ysleta may the the same that they have reported.

In an experimental guayule planting (about one acre) at Balmorhea about 5% of the plants had succumbed to Phymatotrichum root rot (Phymatotrichum omnivorum). -- G. M. Watkins, Emergency Plant Disease Prevention Project. Week ending October 16.